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**FEEDING
DAIRY
CATTLE**



**MORE WATER,
LEANER PIGS**



**W.I. PRESIDENT'S
CHRISTMAS
MESSAGE**



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DECEMBER 1966



THE MACDONALD LASSIE

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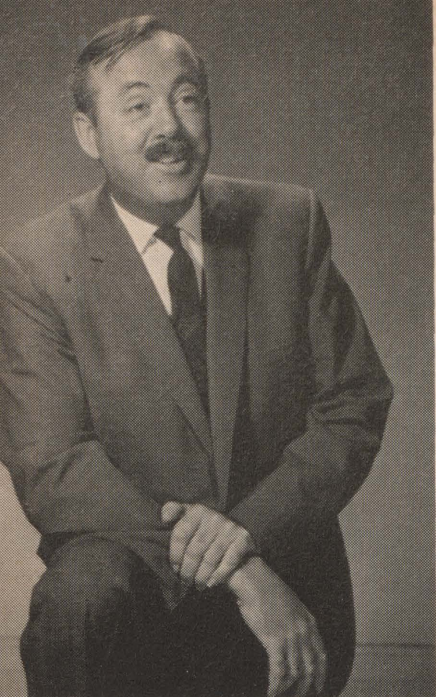
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COVER PICTURE: No bells, no tinsel, no candles could enhance the simple beauty and the quiet Christmas peace of the early morning caught by the camera of Omer Beaudoin. (Quebec Film Office photo.)

To All Our Readers:

Season's Greetings

- From the Editors and Publisher of Macdonald Farm Journal



DR. HOWARD A. STEPPLER

INSIDE

THE EDITOR'S COLUMN

LETTER TO THE EDITOR . . .

Dear Sir:

I have read with considerable interest the editorial and the abstract of Mr. Hodge's thesis, both of which appear in the October 1966 issue of Macdonald Farm Journal and which deal with the failure of high school agriculture. I feel that neither of these articles has struck at a primary reason, namely the content of the course itself, for the failure of agriculture as a course in the high schools. I was involved myself, a few years ago, as an examiner for agriculture in the high schools and I suspect that the course has changed but little from those days of my association with it. I must accept some responsibility in not actively campaigning for the changes in the course which I now see as so important.

The changes, however, are not confined to a high-school course in agriculture, but they reflect on society and its evaluation of agriculture in terms of its contribution, the challenges which it offers to one choosing it as a profession, the future role which agriculture must play, the exciting developments which are taking place with increasing rapidity in agriculture.

The old course merely reconfirmed the opinion that many held that agriculture was concerned solely with those operations which one viewed down a road in a rural area and which most people felt went on somewhere behind the barn. It presented no challenge to the student; it did not even integrate the various segments of the course to demonstrate to the student that he was dealing with an extremely complex ecosystem.

A course must be developed which presents an academic challenge to the student, which demonstrates the complexity of the system which is agriculture; that the management of the various components of that system — soil, the climate, the plants, the animals and, associated with that, the various techniques of management — requires a high level of skill on the part of the farmer-operator. The course must also indicate the relationship between the welfare of society (and that is not just society in the local region, or in Canada, but in the world) and an efficient agriculture, and that the agriculture must increase in its efficiency. The course should do this through a historical sketch of the inter-relationships of society and agriculture and a projection into the immediate future. The course must also indicate to the student the challenging areas of research which await the person who chooses agriculture as a profession, and of course it cannot ignore man as an intimate part of the complex ecosystem which we recognize as agriculture.

I personally do not subscribe to the idea that a course in agriculture at the high school should teach farmers how to farm. This is much too complex a subject to teach in a few lectures a week, and hence it should not be a course which has an appeal only to those who have set their heart upon farming. In fact, many of these people do not fully appreciate the tremendous changes that have been and are taking place in agriculture. I believe that a course can be developed for the high school which will present a real challenge to the student and which will arouse and excite those students who are looking for a career in science, and will give a deeper sense of the challenges which face them if they choose the practical side of agriculture as their career.

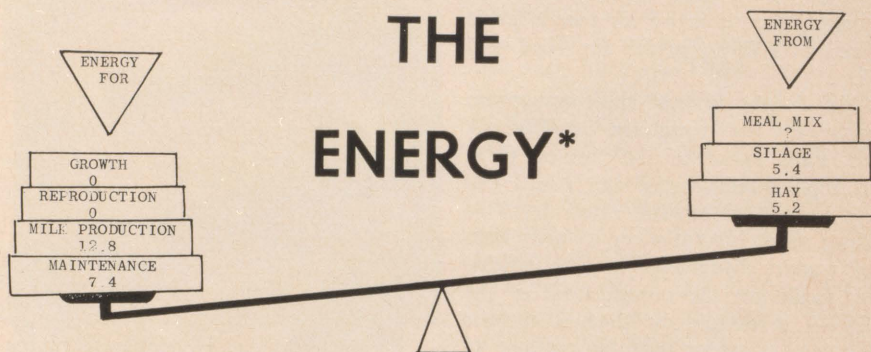
Yours sincerely,

Howard A. Steppler

Professor and Chairman
Department of Agronomy

In Dairy Cattle Feeding:

BALANCE THE ENERGY*



The dairy cow approaches her maximum efficiency when her daily need for energy is balanced by the daily intake from feed. When roughage quality is high, the need for energy from meal is proportionately less.

By P. Y. Hamilton

The feeding information, more than any other part of the Dairy Herd Analysis Service offers most dairymen an opportunity to increase production and income. The benefits from feeding changes come more quickly than those from breeding or other management practices because the herd responds quickly.

The dairy cow makes the most profit

from feed when she is fed according to her immediate needs — when her actual daily requirement for feed is balanced with her daily consumption. Most dairymen have known this principle for a long time and have fed more to their higher producing cows and less to low producers. The problem has been to know *what is the requirement* of each cow each day of her

The focus here is on the two columns of the DHAS report which compares "Meal fed" with "Meal recommended"

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PRODUCTION					ALIMENTATION FEEDING					GESTION MANAGEMENT				
MILK	GRASS FAT	S.M.E.	W.M.F.	W.M.F.	MOULÉE MEAL	FOURRAGES BOUGHESSES	FOURRAGES BOUGHESSES	FOURRAGES BOUGHESSES	FOURRAGES BOUGHESSES	VALOIR DU LAIT	VALOIR DE MILK	VALOIR DE MILK	VALOIR DE MILK	VALOIR DE MILK
LB	%	%	%	%	W.M.F.	W.M.F.	W.M.F.	W.M.F.	W.M.F.	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
2.1	5.4	10.0	12	62	10	7	14	31	0	2.7	99	1.31	.68	2.8
LB	%	%	%	%	UNIT LB	UNIT LB	UNIT LB	UNIT LB	UNIT LB	\$	\$	\$	\$	\$
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21.0	.1	20	21	PR	.73	.73	910	9	82	0	36	122	339	5.4
18.0	.1	20	21	PR	.22	.68	8	9	77	0	161	220	163	6.3
16.5	5.6	8	8	PR	.00	.44	910	1	82	0	162	252	149	5.4
28.0	4.8	9.5	12	10	LUXURY	.81	810	7	80	0	0	83	290	4.3
13.0	4.0	9.4	6	2	STAR	.66	15	7	6	78	0	85	189	137

* From a talk by Peter Y. Hamilton, Professor of Animal Science and Extension Specialist, given to members of D.H.A.S. visiting the College November 1 and November 7

lactation and dry period, and *how much* feed it takes to meet the requirement.

The old thumb rules have helped. The simple "feed-to-milk" ratio is perhaps the most common — one pound concentrate for each 3 lbs. to 4 lbs. milk produced. This, of course, helps to adjust feed intake to production; it is much better than feeding all cows the same. But it is by no means good enough at today's prices for feed and milk.

This simple thumb rule makes no adjustment for roughage quality. A feed: milk ratio of 1:5 on a farm with high quality roughage could put the cows on about the same level of feeding as a 1:3 ratio on a farm with poor quality roughage. Nor is adjustment made for the composition of the milk — a deficiency that is serious when you consider that fat content of milk makes an important difference to requirement.

There are other "thumb rules" that attempt to consider roughage quality, milk composition and cow size. These usually involve rather complex tables, but because of the almost unlimited combinations of factors, at their best are a compromise.

It is with the coming of the computer, combined with a reporting system such as the D.H.A.S. that a continuous reliable adjustment can be made to the pounds of feed required daily by each cow.

Energy is limiting factor

Energy, protein, and minerals are the three main feed nutrients required by



PETER Y. HAMILTON

dairy cows. Energy is most often the limiting factor in milk production. Sometimes the cow is simply not given enough feed, or she may not be able to consume enough to meet her energy requirement. This latter occurs often in higher producing cows that are fed bulky, slow-digesting rations. While it is important to provide sufficient protein and minerals, the proper per-

centage of each in the meal mixture will look after these. The *amount* of feed, therefore, depends on the cow's requirement for energy.

Daily requirement

A dairy cow requires energy for four main purposes: 1) body maintenance, which varies with the size of the cow; 2) milk production, which varies with quantity and composition of milk; 3) reproduction which becomes significant only during last two months of pregnancy, and 4) Growth, in cows under four years of age.

These energy requirements have been well established through research. For instance, Table 1 shows that it takes 6.3 lbs. net energy (N.E.) to maintain a 1000 lb. cow, and 7.4 lbs. N.E. for a 1200 lb. cow.

Table 2 shows the energy required for milk production. For example, a cow giving 40 lbs. 4% milk would require 12.8 lbs. N.E. for milk production alone.

For growth, an extra two lbs. N.E. is added to the daily requirement of cows under 4 years.

For reproduction, an extra 1.5 lbs. N.E. is added to the daily requirement during the last two months of pregnancy.

If we use for an example a 1200 lb. mature cow, in early pregnancy giving 40 lbs. 4% milk her daily requirement for energy would be 7.4 lbs. N.E. for maintenance plus 12.8 lbs. N.E. for production — a total of 20.2 lbs. N.E.

Energy from feed

This 20.2 lbs. N.E. must come from the daily ration of feed. Now we must work out how much energy each component contributes.

First, it must be remembered only a part of any feed consumed by a cow becomes available to her to meet the above requirements. Net energy is the energy left in a feed after the energy lost in the faeces, the urine, the gases, and the work of digestion is deducted from the total energy value of the feed. The N.E. of roughages of varying qualities has been worked out and set up in tables as quality codes. These codes are used on the farm to establish the quality of a hay or silage by matching it according to cutting date, maturity, etc., with a silage or hay of equivalent quality in the tables. For the purpose of our example, we will consider that this cow freely consumes 30 lbs. corn silage and 12 lbs. hay daily. We will say that this silage was harvested at the "hard dent" stage, and has a dry matter content of 30%. From the code tables, this silage has a net energy of 60. Therefore the net energy available to the cow from the silage is $30 \times 30 \times 60 = 5.4$ lbs. N.E.

Table 1 — Net Energy for maintenance.
Body Weight
lbs.

	N.E. Units
800	5.2
1000	6.3
1200	7.4
1400	8.5
1600	9.6

Table 2 = Net energy required for Milk Production
(Units N.E. per lb. milk.)

Lb. Milk/day	% Fat in milk	
	3.0	4.0
20	.27	.32
40	.29	.34
60	.31	.36
80	.33	.38

Table 3 — Hay Coding Guide.

Date Cut (S.W. Quebec)	Stage of Growth	Quality Codes*
Before June 5	Early vegetation	57
June 6-15	Before heading or budding	50
June 16-25	Boot stage or 1/10 bloom	43
June 26 - July 5	Full bloom	37
July 6-20	After bloom	31
After July 20	Ripe	25
Second and third cutting		41

* Drop one grade if seriously damaged by weather.

Table 4 — Quality Code for Corn Silage.

Stage of Maturity	D.M.	Code
Tasseled	22	58
Milk	24	59
Early Dent	28	60
Hard Dent	30	61
Ripe	23	62
Ears Removed	23	40

The hay, we will say, was cut between June 15 and June 25, in 1/10 bloom. From the code tables, its net energy is valued at 43 (lbs. per 100). Other factors such as weathering will of course change its rating. The net energy in this example is $12 \times .43 = 5.16$ lbs. N.E.

Balancing the energy

The silage and the hay therefore supply $5.4 + 5.2 = 10.6$ N.E. But our cow needs 20.2 N.E., so 9.6 lbs. of net energy must come from the meal mix.

The net energy in most daily rations is about 74. Based on this, it would take 13 lbs. meal to supply the 9.6 lbs. N.E. required and this would be the recommendation for meal for this cow on the monthly D.H.A.S. reports.

In our example, 63.2% of the net energy supplied came from roughage, and 36.8% from the meal. When these figures from all the cows in the herd are totalled, they can serve as a useful check on roughage quality and feeding practices. These are provided each month near the top of the D.H.A.S. herd report. A high percentage of energy from meal is likely to mean a lower "return over feed cost" for the milk. A low percentage of net energy from

roughage may point to low quality in the roughage.

The D.H.A.S. report also provides a



Good quality roughage is the basis of efficient feeding. Livestock Superintendent James Houston and Head Supervisor (DHAS) Norman Campbell discuss the feeding program for the College herd.

feeding index. When the total net energy fed to the herd equals the N.E. required by the herd, the feeding index is 100.

By using the tables, it's possible for a dairy farmer on any cow-testing scheme to use his pencil to work out fairly closely the requirement of meal for each cow in his herd. It is slow and tedious, though, and often not too accurate. Some of the better thumb rules are a substitute and there are even electronic "cowculators" available to farmers in some areas for this purpose. But dairy farmers in D.H.A.S. have all this done for them. The computer makes these calculations and others not easily done with the pencil. They have another advantage; the supervisor helps them work out the consumption and quality of roughage — a matter highly important to the accuracy of the meal feeding recommendation.

Almost all of the modern methods of feeding dairy cows are based on meeting the immediate requirement of the cow. Challenge feeding or lead feeding for example suggests feeding more than requirement in the early part of lactation — as long as the cow responds with more milk. For many dairy farmers, the first step is to feed to requirement in early lactation. For those who are ready to go further, it is easy to "lead feed" when you know how much feed is needed to meet requirements. □

Guide d'Alimentation pour les Vaches Laitières

L'énergie ou la consommation totale d'éléments nutritifs est considérée comme le facteur le plus commun, limitant la production du lait. Cette analyse a pour but d'appuyer sur l'importance de fourrages de haute qualité et d'un emploi optimum de moulées. L'analyse est d'autant plus valable que les informations fournies le jour du test sont précises.

Energie Nette. Dans le processus de la digestion il peut se produire des fuites d'énergie par la formation de gaz et par le travail requis par la digestion elle-même. Les bactéries du rumen d'une vache laitière peuvent décomposer la cellulose en grande quantité. Toutefois, il y a une perte d'énergie due à ce travail. L'estimé des U.N.T., bien que cette méthode soit satisfaisante, n'est pas aussi adéquate que la valeur relative du fourrage exprimée en énergie nette (E.N.) ou (N.E.). L'analyse des aliments fournie par le "Service d'Analyse des Troupeaux Laitiers" est basée sur l'énergie nette. Les codes de

qualité du fourrage, fournis dans les tableaux ci-inclus, peuvent être interprétés comme suit : Nombre de livres (thermes) d'énergie disponibles (pour le maintien et la production d'une vache) dans 100 livres de matière sèche consommée.

Matière Sèche (M.S. ou D.M.). L'énergie nette (ou la qualité d'un aliment) est estimée sur la matière sèche. La matière sèche est le nombre de livres de matière sèche consommée dans un aliment tel que soigné. Du fait que les différents fourrages contiennent des quantités différentes de matière sèche, de 90% pour le foin à 20% pour certains ensilages, il est essentiel d'en faire une estimation avant de calculer l'énergie nette disponible d'une quantité de fourrage consommé.

Taux d'Alimentation du Fourrage. Ce taux d'alimentation est la quantité de fourrage équivalent au bon foin consommé par 100 livres du poids vif d'un animal. Dans les régions propices

à la production du fourrage, la production du lait s'avère la plus profitable lorsque les vaches consomment beaucoup de fourrage de bonne qualité. Quand les conditions alimentaires font l'objet d'un libre choix, la quantité de fourrage consommée sert souvent d'indicateur de qualité pour ce fourrage. Un taux d'alimentation de fourrage au-dessous de 1.5 révélerait ainsi une quantité limitée ou une mauvaise qualité. Un taux de 3.0 ou plus indiquerait une bonne qualité.

Indice d'Alimentation. L'index d'alimentation indique le rapport entre l'énergie nette consommée et l'énergie nette totale considérée comme requise pour la production, le maintien, la croissance et la reproduction.
Indice d'alimentation =
Énergie nette totale consommée

Énergie nette totale requise
Un index alimentaire au-dessous de 95% ou au-dessous de 110% révélerait un désaccord entre la consommation d'aliments et le niveau de production.

Le rapport et les recommandations d'alimentation jouent un rôle important dans le "Service d'Analyse des Troupeaux Laitiers".



RAYON – THE VERSATILE FIBRE*

By Elizabeth Funk

Rayon is a regenerated cellulose fibre, which was originally made to imitate silk. Robert Hooke, the first western man to suggest it, published his ideas in a book in 1664. The Chinese, however, had suggested it two thousand years earlier. It was not until 1846 that Schonbein first made cellulose nitrate, also known as gun-cotton or nitrocellulose but found that it was very flammable and suitable only for use in guns. In 1862 Ozanam suggested that filaments could be formed by forcing the fluid through small holes and so he invented the spinning jet which made the modern rayon industry possible.

In 1885 Sir Joseph W. Swan first exhibited fabric made from denitrated nitrocellulose in the Exhibition of Inventions in London. Also in 1885 Count Hilaire de Chardonnet patented his method of making "artificial silk" and he is universally credited with the invention of the first practicable rayon process. Today Chardonnet silk is only of historical interest.

The viscose process, one of two modern methods for manufacturing rayon, uses spruce pulp as raw material. The wood is first chipped into small pieces about one inch by one-half inch by one-quarter inch. It is then treated with calcium bisulphate and cooked in steam for about fourteen hours. This purifies the cellulose by dissolving much of the lignin and other impurities but it does not attack the cellulose itself. After this treatment it is bleached with a hypochlorite and is pressed into paper boards, which are 90-94% pure cellulose. These boards are stacked vertically in a steeping and pressing tank where they are soaked

"Rayon is the generic name of filaments made from solutions of modified cellulose by pressing or drawing the cellulose solution through an orifice and solidifying in the form of a filament or filaments by means of some precipitating medium." — Labarthe. It is a fibre of many uses.

in caustic soda for one to four hours. This process is known as mercerization and cellulose is swollen but not dissolved in it. After the required time the excess caustic soda is pressed out to bring the boards to between three and three and one-half times their dry weight. They now consist of nearly pure alkali-cellulose.

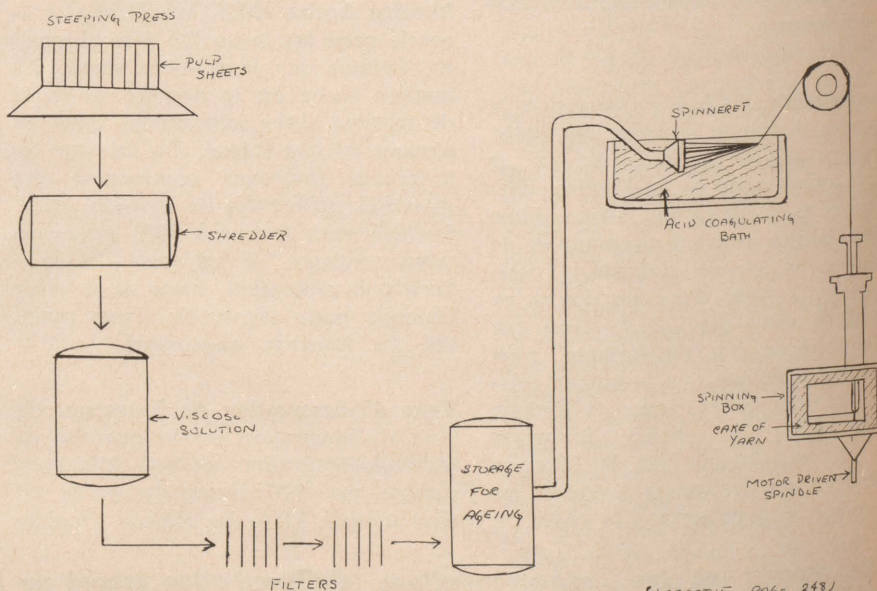
The pressed boards are then torn into small pieces and the resulting crumbs are allowed to age. During the ageing process some depolymerization occurs and the degree of polymerization drops from 800 to 350. The ageing

usually takes three to three and one-half days at 22°C. but may be speeded up by raising the temperature.

The crumbs are put in a rotating drum with about 10% of their own weight of carbon bisulphide. They are churned together for about three hours, and result in a thick gelatinous sodium cellulose xanthate which is a deep orange in colour. This xanthate is in turn put into a mixer. It contains a fixed amount of dilute caustic soda and during the four to five hours mix-

(continued on page 18)

FLOW CHART OF REGULAR VISCOSE RAYON



(LABARTHE, PAGE 248)

* From a term paper, "The Production of Rayon Fibre," prepared by Miss Elizabeth Funk for the course, Textiles 110 in her freshman year, School of Household Science, Macdonald College.

NUTRITION OF AN EVER INCREASING WORLD POPULATION

***By Bruce E. McDonald**
Department of Animal Science



The problem of feeding an ever increasing human population is the formidable challenge confronting agricultural scientists throughout the world. The task is not simply one of providing enough total food but rather it is one of meeting the individual's daily requirement for each of the specific nutrients. It has been estimated, for example, that two glasses of milk per person per day would be adequate to essentially eliminate the severe protein deficiency syndrome endemic to the economically underdeveloped areas of the world. Thus the animal nutritionist, who in our affluent western society devotes most of his energy to providing a more luscious diet for an already over-fed population, must expand his efforts to supply high-quality protein as efficiently as possible.

Since most of our farm livestock population, especially swine and poultry, compete directly with humans for their food supply you may logically ask, "How long do we expect to be able to continue to meet our protein needs through high quality and palatable animal proteins, such as steaks and pork chops?" The answer to this question depends upon how successful the animal nutritionist will be in utilizing products that are unsatisfactory for human consumption in the feeding of farm animals. Even at the present time much of the protein used in animal feeds arises as a by-product of the human food industry. Products such as fish meal and meat meal are processed wastes salvaged from our fishery and meat packing industries while soybean meal and rapeseed meal are protein by-products of the vegetable-oil industry.

More recently the animal nutritionist has investigated the nutritive value of algae grown on sewage wastes as a feed for livestock. The efficiency with which these products can be converted to pork chops and broiler chicken will dictate what contribution animals will make to our total nutrient needs.

Nutrition Research at Macdonald College.

Research activity in our laboratory is directed towards elucidating some of the nutritional factors associated with efficient production of quality meat products. This article will deal with only two of these projects.

One of our projects involves the evaluation of various feedstuffs in meeting the protein, or more specifically, the amino-acid requirements of the growing pig. Body proteins are complex molecules made up of some 20 individual amino acids, 10 of which are classified as essential for the growing pig. In other words, these 10 amino cannot be synthesized by the pig and therefore must be supplied in the diet. A deficiency of any one or more of these 10 amino acids will result in very poor growth. The problem, however, is greatly simplified by the fact that diets commonly used in feeding pigs are deficient in only 2 of the 10 amino acids; lysine and methionine. Thus the task facing the nutritionist is one of meeting the pig's requirement for lysine and methionine with a minimum of dietary protein because protein constitutes one of the major costs of the diet.

Meeting the pig's requirements for lysine and methionine, however, is complicated by the fact that not only are they frequently limiting in the diet but they may be in a form that is unavailable to the animal. Heat damage during the processing of proteins, for example, has a very profound effect on the biological availability of lysine. An assay method that would give a quick

and accurate indication of the adequacy with which a particular diet meets the animal's amino acid requirements would be very useful not only to the animal but to the human nutritionist. We have been studying the usefulness of plasma-free amino acid levels that is the plasma concentration of the individual "building blocks" of protein, as a measure of protein quality (or amino acid adequacy) of different combinations of feedstuffs. Analysis of the blood plasma following a meal of the test diet shows a very marked change in the free amino-acid concentrations. Continuing work in the project should tell us how well the plasma amino-acid levels correlate with those in the test diet.

Our investigations have been greatly facilitated by the recent acquisition of an automatic amino-acid analyzer, an instrument which gives the complete plasma amino-acid pattern in less than 11 hours. A similar analysis 20 years ago would have taken weeks, if not months, to complete. Thus new techniques in nutrition research are becoming available each day as a direct result of advancing technology in other fields of science.

Starvation and the Overfat Pig.

Another major portion of the effort in our laboratory is devoted to studying fat metabolism. One of the major problems facing the pork producer is overfat hogs. With heart and vascular disorders the number-one killer in North America, the consumer is being constantly warned of the possible danger of saturated animal fats in his diet. The animal scientist is extremely conscious of the potential danger of animal fat and as a consequence has devoted considerable effort to the breeding and feeding of pigs with leaner carcasses.

Work in our laboratory has concentrated on the mechanism of fat syn-

* Dr. B. E. McDonald is Professor of Animal Science, Macdonald College, specialising in non-ruminant nutrition. This article first appeared in the *Faill-Ye Times*.

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thesis, or as the biochemist terms the process — lipogenesis. Before any real success in controlling this process can be expected, we must have a reasonable understanding of the mechanisms involved in lipogenesis. Our investigations have dealt with the metabolic response of refeeding following starvation because the most profound finding in a starved-refed animal is a marked increase in fat synthesis. It has been shown, for example, that one-third of the total weight gain by the starved-refed animal is the result of body fat accumulation. By taking advantage of this adaptive metabolic response we have been able to demonstrate that the composition of the diet used during refeeding determines to a large extent the pattern of the observed response. High levels of dietary sugar stimulate or "trigger" lipogenesis while dietary protein and unsaturated fats prevent or limit the accumulation of body fat. Once we have some appreciation of the changes that occur in the body during accelerated lipogenesis we can attempt to control these processes through dietary manipulation. At least we may be able to make an educated guess as to how we might feed animals to ensure a quality meat product.

Modern Nutrition.

The above examples illustrate the type of research being conducted in our laboratory. In addition, they serve to convey the basic approach being used in nutrition research in 1966. Today research in the feeding of farm animals endeavours to discover and understand the basic processes involved in the growth and development of animals. Such an understanding will enable animal agriculture not only to produce meat more efficiently but to give the consumer a quality product. □

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PHOTOGRAPHS BY
OMER BEAUDOIN

MORE WATER, LEANER PIGS

By H. M. Cunningham
Nappan, N.S.

Pigs usually drink from 2.5 to 3 lb. of water per lb. of feed, but recent experiments at this station showed that when they don't get all the water they want, they may lay on too much fat.

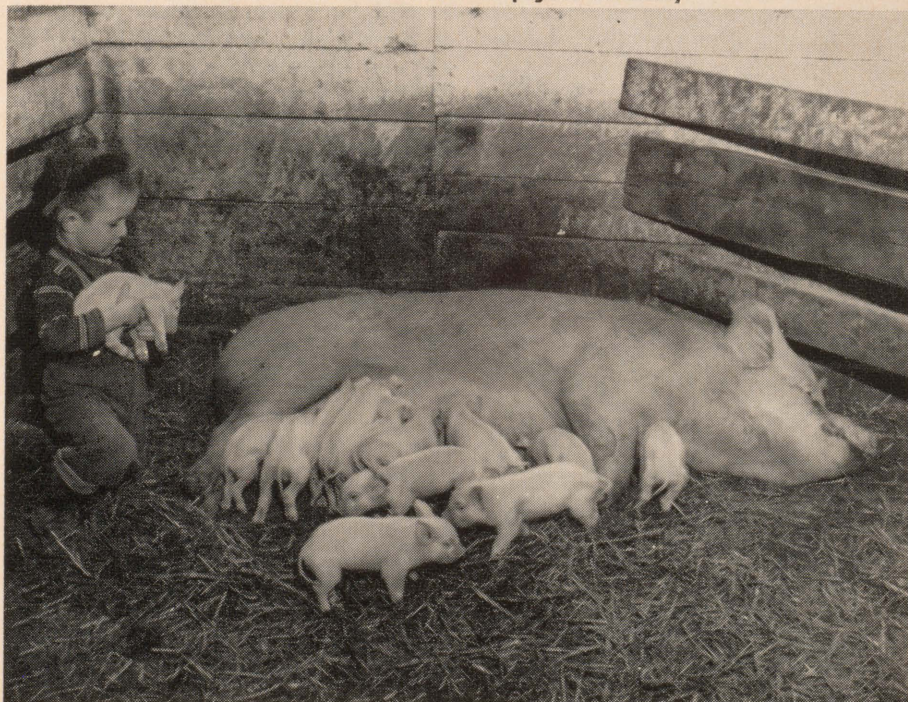
In two experiments, they were restricted to 1.25 lb. water per lb. of feed. They stored up to 11 per cent more fat than their litter-mate controls, who got as much feed, but 3 lb. water per lb. of feed.

In the third they were allowed only 2 lb. water and stored up to 5 per cent more fat than the controls, whose water was unrestricted.

It is well known that if water intake of an animal is restricted, it will eat less and grow more slowly. But this is the **first time** it has been shown that if two animals get the same amount of feed, with one being restricted on water, the one getting the least water will store more fat. The growth of lean tissue does not seem to be greatly affected.

"Pipeline feeding" (feed and water pre-mixed in a gruel) is becoming more and more popular. When water is not provided for otherwise, this system often results in a tendency to under-estimate a pig's water requirement. □

On the farm of Paul and Henri Couture at St-Prosper, Champlain, young Robert takes his responsibilities to this fine litter of piglets seriously.





Beef cattle on the farm of Mr. J. M. Tremblay at Grande-Baie, Chicoutimi.

AN ALMOST UNLIMITED MARKET FOR BEEF CATTLE

"An almost unlimited market awaits raisers of beef cattle in the Province of Quebec," said Mr. Clément Vincent, speaking in October at an auction sale of beef cattle organized by the Abitibi beef-cattle breeders' association at La Sarre in Abitibi-West.

Mr. Vincent, who was paying his first visit to this part of Quebec since being sworn in as Minister of Agriculture and Colonization, declared that there were no grounds for concern as regards the market for beef. "Apart from some fairly limited fluctuations," he continued, "the prices have remained at a high level for a number of years and, by all indications, will continue to do so for a long time to come, because, in view of the steady increase in the population of our province, the demand for good beef is bound to increase. It is no secret that, at

present, over 80% of the best-quality beef eaten in Quebec has to be imported from other provinces. Thus, as far the market is concerned, there is room for practically unlimited expansion."

About 700 head of cattle were sold during the auction, which was the second such sale held at La Sarre within the past two years. The purpose of the auction was to promote the raising of beef cattle in the northern part of the province and provide farmers with an outlet for their beef cattle. The auctions are also intended to bring livestock of this type within easier reach of breeders and rearers by assembling the animals at convenient places and attracting prospective buyers and sellers to public sales where the value of the cattle will be determined by the effects of supply and demand. □



This page supplied in the interests
of the Family Farm by the Quebec
Department of Agriculture and
Colonization.



FARMING WITHOUT THE PLOUGH

A primary purpose in the ploughing of grassland is the destruction of the greensward to prevent competition for survival between it and the intended crop. Studies at the Grassland Research Institute in Berkshire have, however, indicated (*Weed Research*, Vol. 6, p. 142) that comparable results are obtainable on ploughed swards sprayed with suitable weedkillers.

Test swards were liberally sprayed with appropriate weedkiller, to ensure maximum destruction. After a lapse of up to three weeks to minimize remaining effects of the chemicals, the crop seeds were mechanically planted into the fibrous root mass left undisturbed under the treated surface. For this, a modified drill fitted with discs for slitting the killed sward ahead of the seed-dropper was found suitable. Subsequent crops of kale and spring wheat were comparable with those from similar plantings in seed-beds prepared in clover/grass plots ploughed to a depth of 6-8 in. and yields of winter wheat were only slightly lower than those obtained by conventional ploughing.

The re-occurrence of grasses present in the original sward was greater in the sprayed land, but broad-leaved weeds on the other hand were fewer than in the ploughed soil. Differences between the available - nitrogen contents of the ploughed and unploughed plots were not significant. Thus, while the use of herbicides instead of ploughing does not give heavier crops, it can provide a speedier and easier alternative in suitable applications. The results also indicate that other functions of ploughing generally considered to be important, such as turnover of the soil surface and aeration may not necessarily be so for crops such as cereals and kale.



HERBICIDAL CLOTH FOR GARDEN WEED CONTROL

Loosely woven cloth impregnated with weedkiller may prove to be the safest and most convenient way to control weeds in small garden plots, and may also find other horticultural applications, for instance in greenhouses, in commercial vegetable production and in plant nurseries.

The cloth is simply cut to fit the area to be treated and anchored in place on the surface or covered with a thin layer of soil. It decomposes before the end of the growing season and so does not interfere with subsequent tillage operations.

This new technique, being developed

by L.L. Danielson of the US Agricultural Research Service, Beltsville, Maryland, offers the possibility of applying the correct dose of weedkiller precisely where it is needed without the risk of damaging neighbouring plants *US Department of Agriculture Agricultural Research* Vol. 19, No. 11). Danielson's field and greenhouse experiments have shown that the cloth works with 14 different weedkillers, indicating that it will be possible to prepare cloths treated with the appropriate weedkiller to deal with specific weed control situations.

Commercial development awaits further tests on the effectiveness, economics and safety of the method for general use.

(From "New Scientist")



PRUNING PLANTS WITH CHEMICALS

Materials that have the effect of safely pruning plants when sprayed on them in the form of an emulsion have been successfully tested by four scientists working in the crops research division of the US Department of Agriculture at Beltsville, Maryland. Although this is not the first use of a chemical in the job of pruning, it is claimed to be free from the undesirable effects introduced by other chemicals.

H.M. Cathey and his colleagues report in *Science* (Vol. 153, p. 1382) that alkyl esters, derived from fatty acids and fatty alcohols and emulsified with water, killed main growing points of a wide variety of plants without damaging the side shoots, foliage or stem tissues.

The plants were sprayed with just enough emulsion to wet all surfaces, and some species showed the effects within 15 minutes. The main growing points turned black and became flaccid within an hour. The side shoots, however, went on developing at about the same rate as those on plants from which the main growth points had been pinched off by hand.

Various combinations were tried and the experimenters provide a list of concentrations at which methyl nonoate and methyl decanoate cause chemical pruning: for herbaceous plants, dilute solutions will do, while semi-woody and woody plants require higher concentrations, up to ten times as great. The degree of sensitivity to chemical treatment depends on the stage of the plant's growth. If the plant was "resting" there was no response to the strongest solutions used. Care had to be taken to get the right concentration since the main growing point and the side growths were almost equally sensitive.



This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.



The Farmer Must Be: A PROFESSIONAL AND A BUSINESSMAN

Speaking to a gathering of Young Farmers at Nicolet on the fifteenth anniversary of the founding of their organization, the Minister of Agriculture and Colonization, Mr. Clément Vincent, said that the farmer of tomorrow must be a real professional and a businessman.

"He must choose his vocation or career just like any other professional man — priest, doctor, lawyer, notary, teacher, craftsman, or technician — and deliberately commit himself to agriculture backed by adequate preparation and suitable qualifications," continued Mr. Vincent, adding that too many of our present generation of farmers became so by accident, chance, or — worse still — because they had not been able to earn a living in occupations requiring special knowledge or training or even as unskilled labourers.

"If a man wants to farm like a professional, he must act like a professional, that is to say he must fit himself for it by study and must continue to educate himself for life on the land in order to keep up to date and abreast of the ceaseless and rapid developments produced by our mechanized, scientific society."

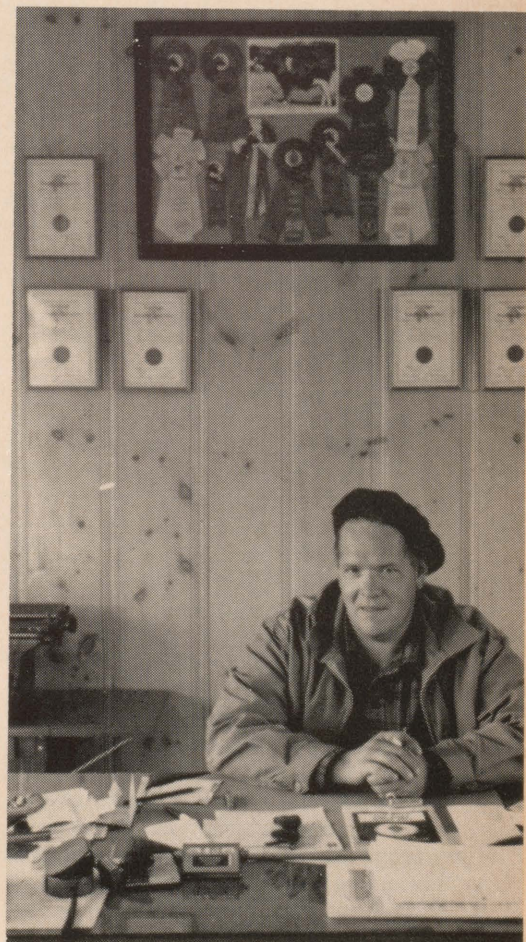
"He must also be a businessman, because it is not enough for the farmer merely to have the necessary information: he must know how to put it into practice. He has to be a good business manager because he is selling his services in the form of products such as meat, poultry, eggs, fruit and vegetables and grain, unlike the doctor or lawyer, for example, who sells his services in the form of knowledge. The farmer must be more far-sighted and shrewd than others because he also has to work with imponderables and factors over which he has little or no control, such as the life of animals that provide a large part of his income and natural forces such as sun, rain, drought, frost, storms, and hail."

"In his capacity of businessman, he must also ponder and maturely

consider before deciding to make an investment. The buying of a piece of land or an item of equipment must be carefully planned with an eye to exactly what the purchase will involve and what it may yield."

In conclusion, Mr. Vincent said that the farmer will have to maintain close touch with his colleagues in order to keep himself informed about changes in markets and new farming methods and join with them to strengthen his buying power or improve the possibilities of marketing his produce. □

The business of farming: Pierre Gignac, manager of Lake Aylmer farm, in his office.



FEDERAL CROP INSURANCE



NEW LEGISLATION PROTECTS RISING PRODUCTION COSTS

Farming is rapidly becoming big business. Production costs are rising; so are investments in farm crops. Because of this farmers are finding that they cannot afford to be without adequate crop insurance.

The Federal Crop Insurance Act passed in 1959, amended in 1964 and again in 1966 brings protection to farm crops. The 1966 amendments give the farmer higher crop protection to cover rising production costs.

The Canada Department of Agriculture can enter into an agreement with any province to make contributions towards the premiums, and the cost of administration of crop insurance programs.

One of the most important changes introduced in 1966 permits maximum coverage for any crop to be raised from the old level of 60 per cent of the long term average yield to 80 per cent.

The established value of each crop is determined by a method agreed upon by the federal and provincial governments. The long-term average, or normally expected yield of an insured crop in any area, and an area can be small as an individual farm if adequate records are available, is calculated in a manner approved by the Canada Department of Agriculture. In arriving at the normally expected yield, different periods of time may be used depending largely on yield records available.

The second major amendment increases the premium share payable by the federal government from 20 per cent to 25 per cent of the total premium. For example, assume that the premium for an insurance policy is one dollar an acre. Under this new amendment the farmer will now pay only 75 cents. The federal government pays the remaining 25 cents, or 25 per cent of each insured farmers premium.

A third amendment meets producers

needs for protection, not only for the actual crops, but for production units such as fruit trees and perennial plants which produce crops. This amendment to the Act will make it possible for an insurance program to provide a measure of financial assistance that will permit the producer to replace the production units lost through natural causes, beyond control of the farmer. It will also make possible assistance towards the costs of maintenance of such units until normal production is resumed. The producers, then, would not suffer direct financial loss over several years while having to replace lost trees.

The original Act only provided assistances for programs covering the insurance of actual crops. Crops were defined in the regulations as follows: wheat, oats, barley, rye, flaxseed, grain corn, buckwheat, soybeans, potatoes, sugar beets, tobacco, sunflower seed, rapeseed, apples, pears, peaches, plums, cherries and apricots.

Other crops can be added by amendment of the regulations.

A fourth amendment in the 1966 legislation covers a similar problem. In certain cases land that has been summerfallowed during the previous year cannot be seeded because of natural causes beyond the control of the farmer. The farmer thus stands to lose the costs of summerfallowing as there is no income from crop in that year. Now, under the new extended coverages it will be possible for a province to make available, insurance, which will compensate such farmers for the costs involved in the preparation of summer-

fallow land which cannot be seeded.

The original federal Act provides for loans to the provinces, in years when indemnities (claims) exceed money available. Provinces can borrow 75 per cent of the amount which claims exceed total premium receipts, cash reserves and a fixed \$200,000. As an alternative to the loan feature, provinces may reinsure a portion of the provincial risk with the federal government.

The Act also provides that the federal government may reimburse the provinces for 50 per cent of their administration costs on any crop insurance program.

There is no compulsory feature in federal crop insurance but it is believed that at least 25 per cent of the farmers in an area must participate in order to provide for a sound program, and the various agreements presently in effect provide for this level of participation.

Generally the provinces have decided that the potential liabilities involved, particularly in the initial stages of any scheme, would be such that the risk would be too large for any province to take without federal support.

CROP INSURANCE PLANS IN THE PROVINCES

The development and implementation of specific crop insurance programs is carried out by the provincial governments. The details of the various insurance programs such as the areas to which insurance shall apply, the crops to be insured, the maximum coverages permitted, and the premium rates which shall apply, are covered in agreements between the federal and provincial governments.

Manitoba, Saskatchewan, Alberta and Prince Edward Island have federal-provincial crop insurance programs. Ontario has signified its intention to begin a crop insurance program for

This page supplied in the interests of the Family Farm by the Quebec Department of Agriculture and Colonization.

winter wheat and forage crops, to be expanded to other crops later. Quebec at present is developing a program suitable for farmers in that province.

In Manitoba: crop insurance was introduced in 1960. Its program insures wheat, oats, barley, flax, and sugar beets. Last year, 8,610 farmers bought insurance totalling \$18,717,000. To date, premiums have exceeded indemnities by \$1,100,000. Preliminary figures for 1966 show that 13,000 farmers had insured their crops for \$30,000,000.

In Saskatchewan: crop insurance was introduced in 1961. Last year, 3,172 farmers bought \$4,565,687 worth of coverage for wheat, oats, and barley. Reserves now total \$850,000. In 1966, so far about 7,000 farmers have purchased about \$12,000,000 worth of insurance.

In Alberta: crop insurance was introduced in three test areas in 1965 for wheat, oats, and barley; 1,312 farmers participated. Total coverage was \$3,139,000; premiums exceeded indemnities by about \$250,000. In 1966, to date, 4,500 Alberta farmers have bought about \$13,400,000 worth of crop insurance.

Prince Edward Island's program commenced in 1962. It provided \$440,859 worth of coverage in 1965 for potato and grain crops on 267 farms

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Indemnities exceeded premiums by about \$39,000.

ADVANTAGES OF CROP INSURANCE

Crop insurance protects money invested in crops against losses due to natural causes beyond the control of the farmer. It spreads losses over large areas, and many years. Annual premiums are substituted for unpredictable losses.

Crop insurance cushions the shock of financial loss. Most farmers have a major investment in the crops they grow. They must borrow money to buy fertilizer, seed, gasoline, insecticides and modern farm equipment. A sudden crop loss often means the farmer cannot repay his loans. This exhausts a farmer's credit. It leaves him without further means of financing. But, if he has crop insurance, he can offer it as additional security, for loans to repay his loss from crop failure.

Crop insurance also gives confidence to invest in the use of modern farm practices to increase crop yields.

It helps insure stability of farm income and strengthens the economy.

Crop insurance gives the farmer a contractual right to assistance in the event of crop failure.

CROP INSURANCE HIGHLIGHTS

The federal Crop Insurance Act now offers greater advantages and benefits to the Canadian farmer through provinces that participate in the program. At present the Canada Department of Agriculture will undertake with the provinces to:

1. Insure crops for up to 80 per cent of their average long-term, or normally expected yield.
2. Contribute 25 per cent of the farmer's premium.
3. a) Insure crops named in the Federal Act.
b) Insure fruit trees and perennial plants which produce insurable crops.
4. Insure the cost of preparing summer-fallow land which cannot be seeded due to natural causes.
5. Reimburse half the provinces' administrative costs.
6. a) Lend a province money in years when insurance claims exceed the amount of money in reserve, or
b) Allow provinces to reinsure a major part of their liability with the federal government. ☐

CROP INSURANCE, THE FIRST ANSWER TO FARMING PROBLEMS



"One of the first solutions that are called for to the problems besetting Quebec agriculture is crop insurance", said Mr. Clément Vincent, Minister of Agriculture and Colonization, speaking on the 14th of October at a dinner organized by the Canadian association of farm editors at Lac Delage near Stoneham.

Mr. Vincent said that crop insurance would stabilize farm incomes, improve credit facilities, protect investments, and ensure the progress of agriculture and of the general economy of rural areas.

"The idea of crop insurance is not a new one", said Mr. Vincent, pointing out that the first such plan is described in the book of Genesis where Joseph, after becoming Pharaoh's overseer, asked his people to set aside a fifth of all the produce of the land during the seven years of abundance to provide for their needs during the seven lean years. "Insurance is now an integral part of our way of life", Mr. Vincent added, "and should be extended to the crops which are the very foundation of the farmer's whole economy".

"Experts are now working on the crop insurance programme, but because of the variety of crops grown

on most of our farms, it is an extremely complicated matter to draw up a plan that every farmer will benefit from. However, the problem has been solved and the plan now being completed by the specialists will be a real innovation, not an insipid copy of existing plans".

"Without going into details of the method of application", Mr. Vincent continued, "one may define the meaning of crop insurance, in its broad sense, as a plan which enables farmers who have invested their labour and capital in crops to safeguard themselves against total or partial losses due to adverse natural conditions. The essential meaning of crop insurance depends on the last three words of this definition. Adverse natural conditions are those that can be caused by frost, excessive rainfall, hail, wind, drought, and plagues of insects and plant diseases affecting crops before they have been got in".

"Where crop insurance exists in North America, it is optional and contributory: in other words, the individual is free to take part in it or not; if he does, he has to pay a small premium, as in the case of fire insurance".

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News and Views of the Women's Institute of Quebec

PRESIDENT'S CHRISTMAS MESSAGE

A very happy Christmas to all of our W.I. members from the Gaspé, from Abitibi down through the Eastern Townships. May we all share in the true spirit of Christmas. The traditional roast turkey is no longer the luxury reserved for Thanksgiving and Christmas, the wonderful-smelling evergreen tree is rapidly being replaced by a plastic impostor and our young people have so many toys and treats throughout the year that Christmas is no longer the eagerly anticipated time it used to be. We think back with longing sometimes for Christmas Past, but is it not true that our fondest memories are linked with the "caring and sharing", "loving and giving" which after all is the real spirit of Christmas. I read something recently which I would like to share with you and perhaps it will help us to "keep Christmas" in our hearts throughout the year.

Are you willing *to forget* what you have done for others and remember what others have done for you?

to ignore what the world owes you and think of what you owe to the world?

to put your rights in the background, your duty in the middle and your chance to do more than your duty in the foreground?

Are you willing *to own* that the only good reason for your existence is not what you are going to get out of life but what you are going to give to life?

to close your book of complaints against the management of the universe and look around for a place to sow a few seeds of happiness?

Are you willing *to stoop* down and consider the needs and desires of little children?

to remember the weakness and loneliness of people who are growing old? *to stop* asking how much your friends love you and ask yourself if you love them enough?

Are you willing *to trim* your lamp so it will give more light and less smoke? *to carry* it in front so that your shadow will fall behind you?

to make a grave for your ugly thoughts and a garden for your kindly feelings? Are you willing *to believe* that Love is stronger than Hate, stronger than Evil, stronger than Death?

Are you willing to do these things even for a day? Then you can "keep Christmas" and, if for a day, then why not always?

— The Spirit of Christmas
Henry Van Dyke
Elsie C. Ossington,
President,
Quebec Women's Institutes



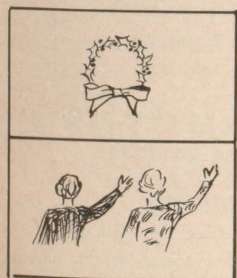
Six little workers in our office
[hive —
One took a husband, then there were
[five.



Five little workers crowding in the
[door —
One heard 'Avon Calling', then there
[were four.



Four little workers, busy as could
[be —
One went to plan the Seniors' meals,
[then there were three.



Three little workers, feeling pretty
[blue —
One left for other fields, then there
[were two.

But though the little workers now
[number only two —
We send a 'MERRY CHRISTMAS'
[to every one of you!

Alice
Primm & Norma
Holmes

EDUCATION — Preparation

In this materialistic age perhaps we tend to think of Education merely as a stepping stone whereby our child may, with less effort, attain more of this world's goods. The key to success is acquired at school and university, and though expensive, worthwhile.

Education has many facets, but none more important than today's preparation for a richer life tomorrow, a continuous process from the day of our birth.

No two children can ever have identical experiences, but infant care, good or bad, develops a trend not easily changed. Games of skill, games of concentration prepare a pre-school child for kindergarten. Our educational system endeavours to train the whole child as well as teach the various skills, so that youth may go out prepared to earn a living, enjoy leisure hours, and contribute to the well-being of his fellow man.

Life itself is the great teacher, but regardless of the numerous demands

made on our time and energy, some thought might well be given to preparation for changes that are inevitable. Today with a large per cent of our population under twenty-five years of age, life is geared to satisfy the demands of youth.

We, ourselves, must lay the foundation today for a happy tomorrow.

Community responsibility assumed now will prepare us to answer the call for leadership when pressure lessens. A few hours given to the pursuit of hobbies insure us a wealth of interests. Music, art, handicraft, books, letter writing, friendship are some of the many avenues we may explore. Let us plan our course and, when possible, exercise some control of preparation for tomorrow.

*Elsie Graham,
Education Convenor
Quebec Women's Institutes*

RAYON —

(continued from page 8)

ing period the xanthate is dissolved into a clear-brown viscose liquid, the "viscose" from which the viscose rayon gets its name. The final procedure the viscose goes through is de-aeration and

filtration. The filtration is to get rid of any last bits of undissolved matter and is carried out through finely woven cotton material. The viscose is then put in tanks and subjected to a vacuum until all of the air bubbles are out of it. After this it is allowed to ripen for four to five days. Towards the end of the ripening it must be watched very carefully until it gets to just the right stage at which point it must be spun immediately.

When the viscose is ripe it is forced through spinning jets into a coagulating bath. This bath neutralizes the basic viscose solution causing cellulose to precipitate or regenerate into fine filaments which are drawn off and spun into threads.

Rayon is a very versatile fabric, with wide use. One drawback is that the fibre is not very elastic and the fabric does not spring back into shape quickly after it has been stretched or creased. Except when it is resin-finished it is very absorbent and provides cool comfort for summer clothes. This same quality, however, is a drawback in the case of drapes. Drapes with a rayon warp will stretch on a very damp day,

(concluded on page 22)



Mrs. C. A. MacKenzie of Aylmer, Que. has been chosen by the QWI to do the needlepoint for the Quebec chair in the Centennial set for the Memorial Centre, P.E.I. Each of the provincial Women's Institutes is contributing a chair and Mrs. Douglas Murray, Halifax, is making the designs which will represent each province. In the picture Mrs. MacKenzie is holding her needlepoint chair seat cover which won 1st prize at the 1965 Ottawa Exhibition. Also shown are her 2nd prize Xmas tree and a sample of her china painting.

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The Month With The W. I.



BELVEDERE CELEBRATES 50th ANNIVERSARY

An Open House and Tea was held by Belvedere, in celebration of their 50th Anniversary. Mrs. J. Ossington, Provincial President, congratulated the branch on their successful years. Old-fashioned costumes were worn by several members to add colour to the occasion. Flowers and gifts accompanied by congratulations were received from sister branches and friends. Vocal selections were enjoyed. To commemorate the occasion a cheque was presented to Mrs. Armstrong, matron of the Wales Home to purchase two over-bed tables for the infirmary. Further, the branch is sponsoring a bursary, to be given for three consecutive years to a student from Lennoxville High School, who will be furthering their studies in either agriculture or teaching courses. The celebration proved to be most enjoyable and will be remembered as the members carry on their Institute.

ARGENTEUIL: Brownsburg heard day-by-day report of the Argenteuil County W.I. Bus Tour, to Chatham Ontario, and vicinity: entertained **Lakefield** branch: program included skits, songs, games, report of Board meeting, and ideas to celebrate Canada's Centennial.

Dalesville-Louisa gave suggestions for Fair work to Home Economics Convener, are quilting for the Red Cross; Mr. J. G. Gelin, Agronomist, spoke on Good Eating Habits and Nutrition; auction of potted plants to raise branch funds. **Frontier** entertained their husbands at a casserole supper: each person present cited an outstanding event in the County: several solos were rendered by a former member, followed by most enjoyable sing-song. **Jerusalem-Bethany** presented Mrs. F. Campbell with the W.I.'s silver tray having obtained the highest number of prizes at the 1966 Lachute Spring Fair: Mrs. E. McOuat and Mrs. E. Kettyle reported on the enjoyable bus tour and

visits with W.I.'s in Ontario. **Lachute** had as guest speaker Mrs. Florence Zimmer, Provincial Convener of Agriculture, who gave an address on Conservation: Mrs. G. Leggett gave some of the highlights of the bus tour to Chatham and Niagara districts. **Pioneer** answered roll call with How I intend to celebrate Canada's Centennial; Mrs. J. A. Bradley and Mrs. H. McOuat spoke on the Ontario tour, Mrs. G. Smith on the Board meeting: held "Tupper Club" party toured Giles Publishing Inc. where Mr. R. A. Giles explained the machines and procedure as the local weekly paper "the Lachute Watchman" was being printed and run off the press, a most interesting and worthwhile tour. **Upper Lachute East End** entertained Brownsburg Branch, where Mrs. C. Hall, County President, spoke on W.I. County activities; reports on Board meeting and the bus trip given: Miss Marielle Joly showed many beautiful slides of her travels around the world.

BONAVENTURE: **Black Cape** named a place they would like to visit and why; assisted at Blood Donor Clinic by serving coffee and cookies; were hostesses for Semi-Annual County Convention; in a quiz, named 12 Canadian cities in order of greatest population. **Cascapedia** heard paper on education by Convener of Education: named favourite teacher as roll call. **Marcil** attended Semi-Annual: named a current event. **Matapedia** are privileged to have all their meetings announced over CKNB Radio Station (New Brunswick); catered for a wedding; named favourite school subject. **Port Daniel** heard 9 members give good suggestions for a Branch W I Centennial project: talk on the origin or Thanksgiving and its present day observance: collected Pennies for Friendship: collected and donated over \$70 for prizes at School

Fair. **Restigouche** sent delegates to Semi-Annual: exchanged jams and pickles. **BROME:** **Abercorn** have completed a Centennial Project with the painting now finished on their W. I. Hall: County President spoke on her visit to the Flambeau Home in Bondville: Miss Westover, Brome County Health Nurse gave interesting talk on children's diseases and the development of the Health Unit: she emphasized the importance of the Unit with reference to immunization shots and expressed the hope that the new Measles Vaccine will soon be available: Brome's Health Unit was the 33rd to be organized in Quebec; donated their annual scholarship of \$25 to the student standing second highest in Grade 11 exams who is continuing his education; also donated school prizes. **Austin:** each member named a Canadian University and its city; discussed handicrafts display for Provincial Convention 1967; donated \$200 to library, and voted to continue Children's Story Hour; collected cotton for Cancer; held silent auction; special collection for Northern Extension Fund; sold their Hall, and invested funds in bonds for a bursary for Grade X pupil at Princess Elizabeth High School. **Knowlton's Landing** donated to Brome County Services Inc. **South Bolton** members each recited a French verse; paper on citizenship read by Mrs. R. Coates: collection for Northern W. I.'s; thanks sent to Mr. Morris, Burbank for painting W. I. Hall; report on Education given by Mrs. E. Cameron and Mrs. D. Lee; enjoyable report given by Mrs. H. Hill on her recent trip to England; second prize on crewel-worked cushion won by Mrs. R. Davies at Semi-Annual. **Sutton** gave tested recipes for low-calorie dishes; reading on the harvesting of vegetables; Mrs. Westover read interesting paper on W I work in the Mari-

times; visited Flambeau Home, an interesting way to learn of the work being done there for under-privileged children; cotton distributed to members to make sheets for this home.

CHATEAUGUAY - HUNTINGDON:

Aubrey-Riverfield catered for 4 H Calf Club; donated to Howick High School Cafeteria. **Dundee** held meeting at home of their member who lives in Bombay, N. Y.; meeting centered around Home Economics with household hints and recipes given. **Howick:** Mrs. R. McFarland spoke on the projected Regional School at Ormstown held flower bouquet contest; talk and slides on World Tour which a local young man, Mr. D. Watson took, over a period of several months, to Australia, Ceylon, India, Pakistan, Holy Land, Europe, British Isles.

COMPTON: Brookbury is holding regular card parties on Saturday nights, and are doing very well financially with them; birthday gift sent to crippled boy, gifts to ill and elderly; donated to Northern Extension Fund and to Salvation Army. **Bury** had a demonstration on Beauty Culture by a Beauty Counsellor Agent; held quiz on beauty culture with prizes given, card party held; donated to Northern Extension. **Canterbury** took a trip to Sherbrooke where they visited Howardene, parks and other places of interest, later enjoying tea at the home of Mrs. H. Asher, former member of Canterbury W. I. **East Angus** enjoyed being entertained during the summer by their sister branches at Milby, Brookbury and Cookshire; held successful paper drive; sold Expo tickets; were hostess branch for semi-annual; \$25 given to East Angus and Cookshire Bursary which was won by Miss Judy Pickett. **East Clifton W. I.** and the Sunday School held a joint picnic, sharing expenses, and a happy outing; participated in Cookshire Fair project; Miss A. McBurney showed pictures of places she had visited on her Western tour as an exchange student, and also of places that her student friend from Newfoundland had visited; named a Prime Minister and something done during his term of office; donated to School cafeteria, school prizes, and to the bursary. **Scotstown** entertained teachers and friends and parents to hear Mr. Ian McLeay, Director of Studies on the Regional Board, speak on the Regional School: tea money donated to Northern W. I.

GASPE: The **Gaspe County WI's** held their Annual Fair at Murdochville: all 8 branches participated with enthusiasm, and the fair, with about 600 ex-

hibits was a decided success; the county is justly proud of the excellent fairs held on the Gaspe Coast. **Darmouth River** raised money with a Bake Sale and started a work calendar. **Douglas-town** held a large and most successful party, with \$900 proceeds realized; held a card party; sent clothing to Unitarian Service; heard report of semi-annual. **Gaspe** named an event that happened in the past year; gave good suggestions for 1967 Fair, with members congratulated on their prize winning entries at this year's Fair: report of semi-annual; collection for Northern Extension; education items read on Poor Hearing, a School Handicap; publicity items on Thanksgiving, a Rural Specialty, and on Saving Robin Hood's Oak. **Wakeham** held successful food sale; sent both new and used clothing to Unitarian Service. **York** for roll call, said a sentence in French or paid a fine: only 2 members had to pay the fine: brought a knitted square for their afghan; named a vacation trip each would like to take; donated prizes to all grades in Gaspe High School, Grades 1-9 for Mathematics, Grade 10-11 for French; a former member was guest at the meeting; prize money donated to children's Fair; cotton for cancer collected; baby clothing given to local mothers; members enjoyed "eating-out" at a restaurant before their meeting; some members attended the County picnic at Fort Haldimand Camp.

JACQUES-CARTIER: Ste Anne's welcomed as guest Mrs. E. B. North of Amersham W.I., England, and as speaker for the evening, Dr. Florence Farmer, Household Science Dept. Macdonald College, who gave very educational demonstration on family eating habits and meal planning, following Canada's Food Rules.

MEGANTIC: Both groups had Thanksgiving as theme for their programmes. **Inverness** took special collection for World Hungry Fund; arranged for UNICEF Collection and a party for the children who collect at Hallowe'en: practised for a concert using kitchen utensils for musical instruments. **Kinnear's Mills** presented one of their faithful members, Mrs. George Rothney, with a Life Membership and Pin: Mrs. Rothney joined the W.I. in 1918 of this month: she told how W.I. work was carried on over 45 years ago which was most interesting to hear; donated to UNICEF; brought Hallowe'en masks concealed in a paper bag, which were then modelled and judged; donated to Northern Extension Fund. **MISSISQUOI: Cowansville** answered roll by

describing a useful housekeeping idea or method; contributed to Northern Extension Fund, Save the Children and to sponsorship of a student to the U.N. Seminar; members and guests showed articles of handicraft and described how they were made; successful within-the-group food sale held. **Fordyce:** Mrs. Bancroft gave a talk, illustrated by slides on the Northern Branches; donations to Northern Extension Fund, UNICEF and to sponsor student to U.N. Seminar. **Standbridge East:** donated prizes to children for wild flower bouquets and leaf collections at local County Fair; named advantages and disadvantages of present-day educational system: saw demonstration of new methods of teaching Arithmetic; held 2 contests, one on recognition of tree leaves, other on jumbled names of farm equipment; collected clothing for Unitarian relief.

MONTCALM: Rawdon: members and friends enjoyed a dinner at Silver Birch Inn, followed by evening of Military Whist.

PAPINEAU: Lochaber: collected used clothing for Unitarian relief, and cottons for cancer.

RICHMOND: Cleveland held quiz on jumbled names of towns in Quebec, conducted by Education Convener; held quilting bee; held Hallowe'en party for children of the community. **Denison's Mills** have "mystery parcels" at each meeting, with proceeds going to Sunshine Fund; gave prizes of St. Francis and to ADS High Schools; completed their window box contest with prizes won by Mrs. C. Hannan, Mrs. W. Brock, Mrs. N. Brock; distributed quilt blocks which will be made into quilt for a bride; jams and jellies to Wales Home; held White Elephant Sale. **Gore** entertained lady teachers of St. Francis High School; had a sales table; donated to UNICEF; held Bible Quiz won by Miss Moorhead; are selling histories of Richmond County. **Melbourne Ridge** gave \$50 to St. Francis School Student Loan Fund; donation to Salvation Army. **Richmond Hill** had for Roll Call — bring something from your garden, these articles were then auctioned; Radio Broadcast given by Mrs. V. Farant; held chicken pie supper which netted nearly \$200; sold a quilt. **Richmond Young Women** are selling History of Richmond County; jams and jellies to Wales Home; donations to Welfare Fund at St. Francis School, Quebec Service Fund, Northern Extension, Cecil Butters Home. **Spooner Pond** held a fair for children, where vegetables and flowers grown from seed



distributed by the branch in the spring, were judged; held a quilting; selling Expo tickets and History of the County; held amusing quiz on A Famous Art Gallery.

SHEFFORD: Branches voted to buy Highway signs, and each will pay a share. **Granby West** held tea to raise funds; held Agriculture Contest in the High School with Expo tickets as prizes.

SHERBROOKE: Belvedere celebrated their 50th Anniversary; donated to UNICEF; party for children collecting for Hallowe'en UNICEF held, with **Lennoxville**. Lennoxville heard Miss Roberta Cascadden of Lennoxville High, tell of her trip to Vancouver as an exchange student, and of entertaining a student from Newfoundland; articles read on Safety around the Home, and Preparation of Stuffed Apples for Freezing; helped with annual school fair, and had handicraft booth there; gifts given to 2 exchange students, with members helping to entertain them; members rode in float in Optimist Parade. **Brompton Road** held discussion on school fair gardens; worked 6 hours at cancer dressing station; catered for local and for provincial plowing matches; roll call - a one minute speech by each member. **Milby** held discussion on the naming of roads; visited Grace Christian Home, giving gifts and serving tea to the residents.

STANSTEAD: Stanstead North: Mrs. D. Johnston, convener of agriculture spoke on the school fair project, this year observing its 50th Anniversary. **Beebe** and **Tomifobia** branches were guests at the meeting; Miss Viola Moranville of Beebe gave most interesting talk on the Leadership Course which she had attended; silence was observed in memory of a member, Miss Elsie MacIntosh who lost her life in the fire which destroyed her home.

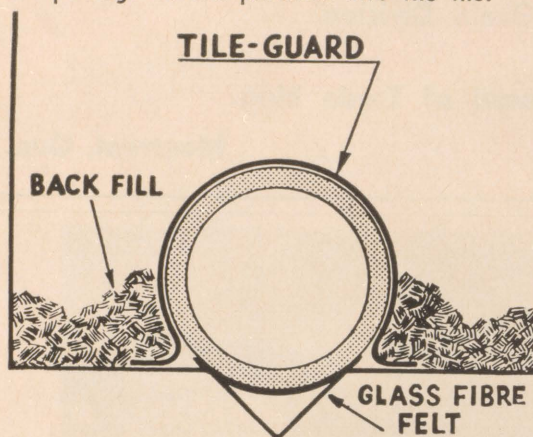
Ayers' Cliff: Miss Viola Moranville spoke on Home Economics. **Hatley:** answered roll with a sentence in French; repairs made on the Institute room at the school; donated to the Hatley library; Mrs. W. Emery, member of the branch, held a Nearly New sale and presented the proceeds of the sale, \$32, to the branch.

VAUDREUIL: Harwood: Mrs. McKellar, Welfare and Health Convener, gave interesting information about the "Meals on Wheels" project being carried on for Senior Citizens in various communities; donation to Salvation Army; held very successful card party, proceeds of which are used to maintain bursaries given annually in the local schools by the branch. □



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RAYON — (continued from page 18)

but will return to their original length when the humidity is low.

Since it is a man-made fibre, rayon has comparatively short chains of cellulose molecules resulting in a relatively weaker fibre and fabric. When wet the fibres are weaker still and therefore the fabric must be handled very carefully in laundering. Some rayons lose between 30% and 60% of their breaking strength when wet. The short chain molecules also mean that heat will damage the fibres more readily than cotton and so rayon fabrics must be ironed at a somewhat lower temperature.

Rayon has one very good property in that it is white when spun and it stays white with relatively little care as long as it is not allowed to get too dirty between washings. If bleaching becomes necessary a neutral sodium hypochlorite bleach is the most satisfactory, but chlorine bleaches should never be used on any resin-finished fabric. Hydrogen peroxide bleach may also be used at temperatures below 130 F. Strong acids and alkalis will attack rayon so mild soaps are recommended.

Damp rayon, especially if dressings such as starch have been applied, will be attacked by mildew and certain bacteria, but it is impervious to insects. Sunlight will also cause deterioration, weakening the fibres considerably, and so rayon fabrics should be dried in the shade only.

Research is continually producing better rayons by variations of the original process. The consumer can look forward to inexpensive fabrics as strong as cotton, and free from the faults of the original material.

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